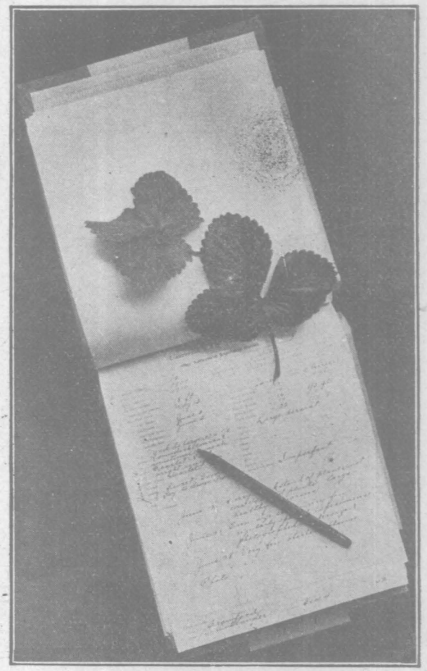
STRAWBERRY NOTES FOR 1910-1911

OHIO
Agricultural Experiment Station

WOOSTER, OHIO, U .S. A., FEBRUARY, 1912.

BULLETIN 236



The Bulletins of this Station are sent free to all residents of the State who request them. When a change of address is desired, both the old and the new address should be given. All correspondence should be addressed to EXPERIMENT STATION, Wooster, Ohio

OHIO AGRICULTURAL EXPERIMENT STATION

BOARD OF CONTROL

J. D. GUTHERY, *President*.....Marion
HENRY L. GOLL, *Secretary*.....Swanton
D. L. SAMPSON, *Treasurer*.....Cincinnati
FRANK B. BLOOD.....Conneaut
GEORGE E. SCOTT.....Mt. Pleasant

STATION STAFF

CHARLES E. THORNE, M. S. A., *Director*

DEPARTMENTAL ORGANIZATION

ADMINISTRATION

THE DIRECTOR, *Chief*
WILLIAM H. KRAMER, *Bursar*
D. W. GALEHOUSE, *Assistant*
DORA ELLIS, *Mailing Clerk*
GLENN HALL, *Engineer*
W. K. GREENBANK, *Librarian*
W. J. HOLMES, *Printer*

AGRONOMY

C. G. WILLIAMS, *Chief. Associate in soil fertility investigations*
F. A. WELTON, B. S., *Associate*
WILLIAM HOLMES, *Farm Manager*
C. A. PATTON, *Assistant*
C. A. GEARHART, B. S., *Assistant*
E. C. MORR, *Office Assistant*
C. H. LEBOLD, *Asst. Foreman*

ANIMAL HUSBANDRY

B. E. CARMICHAEL, M. S., *Chief*
J. W. HAMMOND, M. S., *Assistant*
GEO. R. EASTWOOD, B. S., *Assistant*
DON C. MOTE, M. S., *Assistant*
W. J. BUSS, *Assistant*
ANTHONY RUSS, *Herdsman*
E. C. SCHWAN, *Shepherd* (Carpenter)

BOTANY

A. D. SELBY, B. S., *Chief*
TRUE HOUSER, B. S., *Assistant* (Germantown)
F. K. MATHIS, *Office Assistant*
E. L. NIXON, B. S., *Assistant*
D. C. BABCOCK, A. B., *Assistant*
J. H. MUNCIE, A. B., *Assistant*

CHEMISTRY

J. W. AMES, M. S., *Chief*
E. W. GAITHER, B. S., *Assistant*
GEO E. BOLTZ, B. S., *Assistant*
J. A. STENIUS, B. S., *Assistant*
GEORGE MCCLURE, *Assistant*

CLIMATOLOGY

J. WARREN SMITH, *Chief*
C. A. PATTON, *Observer*

COOPERATION[1]

THE DIRECTOR, *Chief*
M. O. BUGBY, B. S., *Executive Assistant*
W. M. COOK, A. B., *Assistant*
W. L. ELSER, B. S., *Assistant*
C. W. MONTGOMERY, *Assistant*
F. N. MEEKER, B. S., *Assistant*
G. B. MAYNADIER, *Assistant*
A. L. HIGGINS, B. S. *Assistant*
H. W. HAWTHORNE, *Assistant*
H. P. MILLER, B. S., *County Agent*
F. L. ALLEN, A. B., *County Agent*
ELIZABETH GREENSLADE, *Chief Clerk*

DAIRYING

C. C. HAYDEN, M. S., *Chief*
A. E. PERKINS, M. S., *Assistant*
T. R. MIDDAUGH, *Office Assistant*
R. D. GEORGE, *Herdsman*
W. N. MCMILLAN, *Herdsman* (Lancaster)[2]
M. C. MEEKER, *Herdsman* (Mansfield)[3]

ENTOMOLOGY

H. A. GOSSARD, M. S., *Chief*
J. S. HOUSER, M. S. A., *Associate*
W. H. GOODWIN, B. S., *Assistant*
R. D. WHITMARSH, M. S., *Assistant*
J. L. KING, *Assistant*

FORESTRY

EDMUND SECREST, B. S., *Chief*
J. J. CRUMLEY, Ph. D., *Assistant*
A. E. TAYLOR, *Assistant*
J. W. CALLAND, B. S., *Assistant*
D. E. SNYDER, *Office Assistant*

HORTICULTURE

W. J. GREEN, *Vice Director, Chief*
F. H. BALLOU, *Assistant*
E. J RIGGS, B. S., *Assistant*
PAUL THAYER, B. S., *Assistant*
VICTOR HERRON, *Assistant*
C. W. ELLENWOOD, *Office Assistant*
ORA FLACK, *Foreman of Orchards*
W. E. BONTRAGER, *Foreman of Grounds*
C. G. LAPER, *Foreman of Greenhouses*

NUTRITION

E. B. FORBES, Ph. D., *Chief*
A. F. D. WUSSOW, M. S., *Assistant*
M. HELEN KEITH, A. M., *Assistant*
F. M. BEEGLE, B. S., *Assistant*
C. W. KNUDSEN, B. S., *Assistant*
CHARLES M. FRITZ, B. S., *Assistant*

SOILS

THE DIRECTOR, *Chief*

DIVISION OF SOIL TECHNOLOGY

GEORGE N. COFFEY, Ph. D., *Associate*
E. R. ALLEN, Ph. D., *Assistant*
H. FOLEY TUTTLE, M. S., *Assistant*

DIVISION OF EXPERIMENT FARMS

District Experiment Farms

Northeastern Test-Farm, Strongsville.
EDWARD MOHN, *Resident Manager*

Southwestern Test-Farm, Germantown.
HENRY M. WACHTER, *Resident Manager*

Southeastern Test-Farm, Carpenter.
H. D. LEWIS, *Resident Manager*
LEWIS SCHULTZ, *Horticultural Foreman*

Northwestern Test-Farm, Findlay.
JOHN A. SUTTON, *Resident Manager*

County Experiment Farms

Western District

CHARLES MCINTIRE, *Agent in charge*, Troy
VICTOR HERRON, *Hort Ass't*, College Hill
P. C. HERRON, *Agron. Ass't*, Mt. Healthy

Miami County Experiment Farm, Troy
JOSEPH BROWN, *Resident Manager*

Paulding County Experiment Farm, Paulding
A. E. SMITH, *Resident Manager*

Clermont County Experiment Farm, Owensville
HOWARD ELLIOTT, *Resident Manager*

Hamilton County Experiment Farm, Mt. Healthy
——— ——— *Resident Manager*

[1]In cooperation with Bureau of Plant Industry, U. S. Department of Agriculture.
[2]In cooperation with Boys' Industrial School. [3]In cooperation with Ohio State Reformatory

BULLETIN

OF THE

Ohio Agricultural Experiment Station

NUMBER 236 FEBRUARY, 1912.

STRAWBERRY NOTES FOR 1910-1911

BY W. J. GREEN, J. H. GOURLEY AND PAUL THAYER

Any comparative test of varieties is necessarily more or less limited in its scope, but it may not be ignored as valueless nor may the conclusions drawn from it be accepted without taking its limitations into account. The strawberry is one of the most capricious of plants in its soil requirements, and the results of a comparative test upon one soil are not necessarily the results to be expected upon every soil. Then too, in a patch composed of 200 varieties from half a dozen or a dozen different sources, grown, possibly, in as many different soils and handled in as many different ways, some of them coming long distances, it is not to be expected that each variety will show its true value. In spite of these limitations the careful observer is usually able to make allowances for manifestly unfavorable surroundings and to form a rather close estimate of the possibilities of a given variety.

It should be remembered, also, that varieties differ greatly in their ability to adapt themselves to conditions. Some prove satisfactory only under certain conditions of soil and particular systems of culture, while others succeed on a great variety of soils and under unlike cultural conditions. Of the first class there are but few that survive long. Almost all of the dependable sorts belong to the second class, and the varieties of this class make up but a small

part of the total number that are offered for sale. It is hardly worth while for a strawberry grower to hunt for a variety suited to his soil, making the basis for his choice the fact that a given variety has done well on a similar soil. It is safer to choose a variety because it has stamina enough to thrive under widely different conditions. In choosing varieties, one should study characteristics and then take those which appear to possess the desired qualities and that have been successful in many kinds of soil.

The notes upon which this bulletin is based were taken during the seasons of 1910 and 1911. With some varieties the notes are only for one season and with other varieties two seasons' notes were available. The two variety plots, the one fruiting in 1910 and the one fruiting in 1911, were similarly treated and a description of one will suffice for both. Thus far it has been found advisable to secure but a single crop from a variety plot. The plants were set in the spring in rows 3½ feet apart, and 18 inches apart in the row. Thus a dozen plants of a variety made a row 18 feet long. No fertilizers were applied at the time of planting or afterward, the ground having been used for gardening for several years previous and being in a fair state of fertility. The soil is a gravelly loam. The plants were cultivated and hoed frequently during the summer but no extra care was given them, the aim being to give them such attention as they would receive in a well kept commercial plantation. No attempt was made to restrict the number of plants formed and as a result the quality and yield of several varieties suffered from a too full stand of plants. As soon as the ground was frozen the rows were covered with 2 or 3 inches of straw. When growth started in the spring the plot was carefully watched and the excess straw removed to the space between the rows, leaving as much as the plants could well work their way up through. After the season commenced, accurate, daily records were kept of first bloom, full bloom, first fruit, and the yield at each picking. Careful descriptions were written of each new variety and records made of older varieties in regard to their susceptibility to disease and the quality of the fruit produced.

POLLINATION

The yield of berries for 1911 cannot be taken as a guide in determining the value of the different varieties, as some of the standard varieties were almost a complete failure. Nor was this simply a local condition; visitors to the Station from different portions of the state give similar reports. Probably Senator Dunlap was the most conspicuous offender, at least two visitors bringing to

the Station stems of that variety each bearing a single berry and numerous blasted blossoms. In the variety test plot the Senator Dunlap, although the row was well filled with fairly thrifty plants, gave only 3 quarts to an 18 ft. row, while one other variety gave over 26 quarts. A census of the varieties was taken to determine the percentage of blasted blossoms. As there is considerable difference in the amount of bloom on the different varieties the proportion of blasted blossoms to the full bloom was estimated, because anything like an exact statement would necessitate very extensive observations. After the percent of blasted blossoms had been ascertained as nearly as possible, the varieties were classified into perfect and imperfect flowered and tabulated with the following results:

VARIETIES CLASSIFIED ACCORDING TO NUMBER OF BLASTED BLOSSOMS

Flowering	Very few		Few		Some		Numerous		Many		very many		Total varieties
	No.	%	No	%	No.	%	No.	%	No.	%	No.	%	
Perfect	1	.7	8	5.9	33	24.3	34	25 0	22	16.2	38	25.8	136
Imperfect.....	11	16.9	10	15 4	16	24 6	19	29 2	5	9 2	4	6 1	65

This shows that for some reason the perfect flowering varieties were less perfectly pollinated than the imperfect varieties. The reason is not clear, whether the perfect berries were self-pollinated and hence poorly pollinated or whether the perfect plants were too much weakened by the production of pollen to set fruit we are unable at this time to state. Nevertheless the difference in injury to the blossoms between the perfect and imperfect varieties is too great to be ignored or attributed to chance. With this difference in bloom, a difference in yield is to be expected. The total yield of the plot was 1,353 quarts. The 139 perfect varieties produced 841 quarts, while the 66 imperfect varieties produced 510 quarts. After making the necessary corrections for one section of the plot in which the rows were of double length and one in which the rows were half the usual length, the average yield from each 18 ft. row of perfect varieties was 5.47 quarts and from each row of the same length of the imperfect varieties was 7.19 quarts.

In a measure, this difference in yield between the perfect and imperfect flowered varieties is consistent with previous observations. There are some high-yielding, perfect-flowered varieties and some among the imperfect which give low yields, but it is generally recognized as a fact that the former, as a class, are less prolific than the latter. Nevertheless, this difference was much greater the past season than usual.

THE STRAWBERRY LEAFSPOT

The different sorts in the variety test plot showed marked variation in susceptibility to leafspot. A few varieties were free from this disease throughout the season of 1910.

These were:

No. 260 (Reasoner)	F. N. 25
Myer's No. 7	Rockhill's No. 6

The following varieties showed no leafspot until late in the season and then only very slightly:

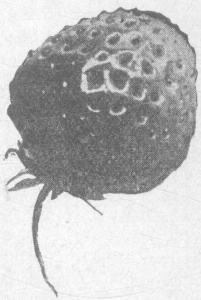
No. 325 (Reasoner)	Bubach	Granger
No. 400 (Thompson)	Elma	Chippewa
	Virginia	

The varieties showing considerable injury were:

Marshall	Oswego	Station Sdlg. No. 2
No. 18	Stevens Late Champion	King Sol
No. 5	F. N. 32	Riverside Sdlg.
No. 20	F. N. 5	F. N. 2
Ham	Bittner's No. 2	F. N. 13
Barrymore	Apple	Rockhill's No. 12
B. W. No. 6	Nick Ohmer	

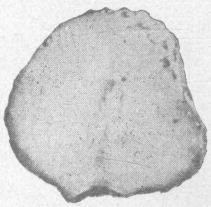
The two varieties most seriously affected were Swedenborg and New Early.

THE NEWER VARIETIES



Allie. (Perfect, R. H. McDowell, 1908.) A fair stand of small plants. Leaves small to medium in size, with hardly sufficient foliage to cover fruit clusters; fruit stalks short, with a tendency to bury themselves in the mulch; fruit medium in size, blunt conical to nearly wedge-shape, light scarlet, darker towards sun; flesh quite light in color, firm, juicy, mild with pleasant flavor. Calyx discolors when ripe. Fairly prolific.

A rather dull looking, undersized, mid-season variety. While plants are free from disease, they do not possess much vigor.



Apple

Apple. (Perfect, Carlisle, 1909.) A good stand of large vigorous plants; foliage noticeably green, giving every appearance of extreme vigor, in fact this row was distinguished during the entire season of 1909 as one of the most thrifty varieties in the test of two hundred sorts. Quite a little leafspot developed during the season but did not become serious.

Fruit stalks upright, shorter than leaves, bearing large clusters of fruit. Fruit above medium in size, uniform, nearly spherical, with a slight tendency to form a neck at

calyx end; light salmon red, evenly colored; flesh white, tinged with red, moderately firm, fairly juicy, subacid; flavor pleasing. Prolific. Calyx remains green and showy. Medium early.

The berry usually leaves the calyx with a characteristic snap when picked without the stem and often the calyx frees itself from the soft flesh, which is not a serious objection for a home berry. This variety may prove valuable as a home or near market sort. The originator finds this variety very firm with him, hence its name.

Armstrong. (Perfect, Crawford, 1905.)

Hummer. (Perfect, Allen, 1906.)

Pres. Roosevelt. (Perfect, Farmer, 1907.) These three varieties as grown side by side show no differences to the careful observer. The fruit is not attractive, as its wrinkled appearance makes it look old even when freshly picked. Midseason.

AUTUMN FRUITING VARIETIES

Several plant breeders are working to secure an everbearing strain of strawberries, or to speak more exactly, a strain which will bear an autumn crop of fruit. Prominent among them are Mr. Harlow Rockhill, of Iowa, and Mr. Samuel Cooper, of New York.

A runner from a plant of Bismarck was found by Mr. Cooper to have this fall-bearing tendency and the variety propagated from the runner was named the Pan American and is the starting point of most of the work along this line of fall bearing strawberries. The Pan American produces almost no runners and hence is slow of propagation. For this reason, as well as others, it has been crossed with other varieties and those plants among its descendants showing this fall-bearing tendency have been preserved.

Mr. Rockhill has sent out a number of these seedlings, nine of them being included in our trial plot. These were originally sent out under numbers, but Mr. Rockhill has named the ones which seemed to him to be of most promise as follows:

No. 1 Francis No. 2 Americus No. 8 Iowa

While there was considerable variation in the appearance and behavior of the different varieties they were alike in producing rather dark colored, under-sized fruit of mild but pleasing flavor. The color varied from deep scarlet to crimson, while the size was medium or below. All the varieties were prolific. The foliage was healthy, only two varieties showing any considerable amount of leafspot.

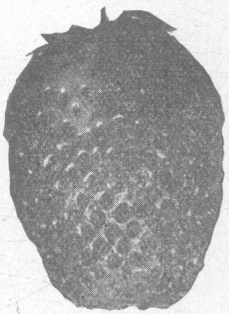
At the last picking, July 3, there were scattering green berries as well as numerous blossoms showing a promise of continuous fruit.

Judging from several years' observation the size would debar these varieties from consideration for commercial culture except under very unusual circumstances.

For the home garden, where size is of less importance, and for amateurs these autumn-bearing varieties are worthy of consideration.

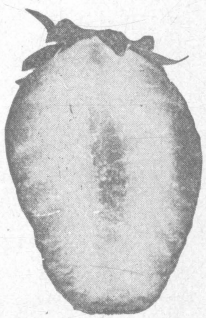
Spring set plants will give good yields, in the aggregate, during the fall months. The quantity of fruit which can be picked at one time is not large, but the berries are so firm that a picking may be kept until the next one is made. Two or three hundred plants will furnish enough berries for one or two meals a week for an ordinary family. The quality during the warm weather is excellent. In continued cool, wet weather the fruit has more acid, but even then it is equal in quality to most strawberries in June. The same plants that bore in September and October will give a crop the next June but the berries are smaller than those of the fall before. They are of better quality, however, than most other varieties.

The autumn-bearing sorts can hardly take the place of the summer varieties, but they are worthy of a place in the home garden.



Barrymore. (Perfect, H. L. Crane, 1909.) A good stand of rather small plants in 1910. A poor stand of plants in 1911. Leaves medium to small in size; fruit medium in size, bluntly conical, bright glossy scarlet, coloring unevenly; attractive when fully ripe; flesh a rich red, uniform throughout, firm, juicy, mild. good. Calyx remains green as the fruit ripens. Midseason.

This variety resembles Gov. Rollins in some degree. We cannot recommend it after two seasons' trial.



Bauer No. 9

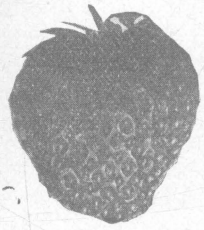
Bauer No. 9. (Imperfect, Bauer, 1910.) Plants vigorous and prolific; foliage bright green, healthy, abundant; fruit large, conical, very light crimson; flesh light salmon, soft, with a slight core, flavor poor.

The only thing to be said in favor of this variety is that it is a vigorous grower and a prolific producer of large, late berries.

Bittner's Early. (Perfect, Bittner, 1907.) Fruit small, variable, short conical, dark red, colors unevenly; flesh red to white, firm, juicy, quality good, mild.

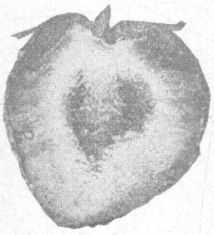
Plants made few runners and leafspot developed early and seriously impaired the foliage before the end of the season of 1909. The stand was so poor in 1910 and 1911 that no observations of value could be taken.

Bittner's Late. (Imperfect, Bittner, 1907.) Fruit rather large, blunt conical to nearly wedge shape, light waxy red, smooth, a pretty berry which looks well in the basket; flesh light red, firm, juicy, subacid, good. Clings to stem rather tightly. Midseason.



A fairly good stand of stocky plants in 1910; foliage medium light green, many of the fruit stalks showing above leaves. The results of 1911 were not quite so favorable, the row not being in perfect health.

Bittner's No. 2. (Imperfect, Bittner, 1907.) Fruit medium in size, conical to narrow wedge shape, irregular and somewhat rough, light shiny red; flesh light red, firm, juicy, mildly subacid to nearly sweet, good. Midseason.



Bittner's Late

In 1910 the row consisted of a fair stand of quite small but prolific plants; foliage not sufficient to cover fruit clusters, leaves dark green, upright, fruit stalks rather long. Fairly prolific. The row in the 1911 test plot consisted of a poor stand of poor plants, some of them evidently diseased. Thus we have only a single year's test of this variety.

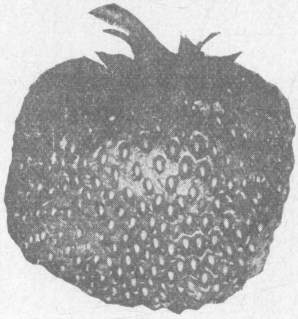
Bountiful. (Perfect, Crawford, 1909.) Although previously described, we again call attention to this variety as a good plant producer and a very prolific variety.

A strong grower, large dark green leaves with long petioles, leaves deeply crenate, fruit stocks rather short. Fruit medium in size, blunt conical, red, coloring evenly; flesh same color as surface, not very firm, subacid, good. Medium early.

The fruit is fairly regular and holds up well in size during the season. In 1909 the leafspot attacked stock and fruit, often showing a peculiar drying about the calyx end which was quite objectionable. As a medium early variety it was not excelled in our trial plots in 1911.

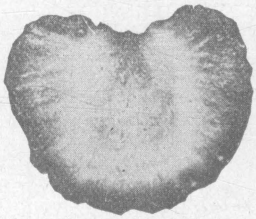
Buster. (Imperfect, Allen, 1906.) Another variety that is hardly new. This is an excellent plant maker, filling the row with strong healthy plants. The foliage is very abundant, glossy, dark green. The fruit at first ranges from medium to very large but

diminishes in size until during the latter part of the season it is small, and yet the small berries are perfect and hence the size is not nearly so objectionable as though they were "nubs." The fruit is rather light in color but the few large sunken seeds make it very attractive looking. This variety easily outyielded all others, yielding nearly double the quarts of its nearest competitor. Season early to midseason.



Buster Brown. (Perfect, J. W. Alt, 1909.) A poor stand of plants in 1911 prevented full notes. Foliage of good color, vigorous, but subject to leaf-spot. This trouble is much more serious some seasons than others.

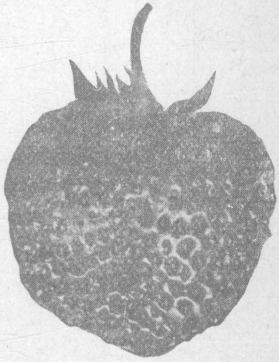
Fruit medium to large, uniform, short wedge shape, inclined to furrow longitudinally through middle, red when ripe; flesh light colored throughout, firm, subacid, excellent in quality. Midseason. Productive. Recommended for trial.

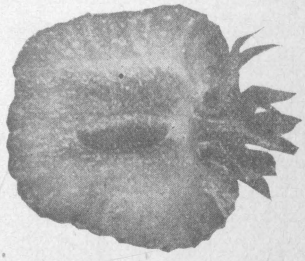


Buster

Canfield. (Imperfect, Carlisle, 1909.) A good stand of vigorous plants, foliage dark green; fruit medium to large, conical with slight tendency to neck near apex, Haverland type, glossy red; flesh red, rather soft, juicy, mild, good; too soft for hauling a long distance to market; seeds conspicuous, which adds to the appearance of the fruit. Prolific. Berries have a tendency to bury themselves in the mulch, making picking somewhat troublesome. Early midseason.

Recommended for trial for home use and near markets. Mr. Carlisle finds this variety firm and good for market. He named it for the township in which he lives.





Buster Brown

Chipman. (Perfect, Allen, 1906.) A fair stand of plants in 1910 with healthy foliage. Fruit medium to large in size, blunt conical, approaching spherical, light red; flesh light red, rather dry, not firm, mild, mealy. Rather flat in quality.

A light yield of uneven berries in 1911, perhaps partially due to imperfect pollinizing. Medium early. Behavior at the Station does not recommend it.

Chippewa. (Imperfect, Buechley, 1909.) Plants moderately vigorous; foliage healthy and fairly abundant; fruit medium to large, conical to bluntly wedge shape, often almost divided, seeds prominent, yellowish green to brown, color scarlet to bright crimson; flesh scarlet, fairly firm and of fair quality. The berry has a better color than the Haverland of which it is a seedling. Season medium early.

Cooper. (Perfect, Farmer, 1907.) A thin stand of plants. Many blasted blooms. Fruit dark crimson, small in size, of fair quality. Midseason.

Dickey. (Perfect, Flansburg & Potters Co., 1909.) Plants healthy, fairly vigorous, foliage abundant; fruit large oblong conical in shape, ribbed and grooved, color deep scarlet, lighter toward the apex which is often green; flesh deep salmon, firm and acid until fully ripe, when the flavor is good. Midseason.

This is a prolific variety producing fruit of good size but lacking somewhat in appearance and quality.

Dual. (Perfect, Frank Dual, 1909.) Foliage light green, long petioles, not many runners; fruit large, somewhat variable in form, conical to wedge shape, light red, coloring evenly; flesh very light red, moderately firm, juicy, mild, sweet, good. The calyx remains green after berries are ripe. Clusters large and uniform. Medium early.

A light stand of healthy plants producing large scarlet berries of good quality. A light yield in 1911 due, at least in part, to blasted blossoms.

Early Golden. (Perfect, Carlisle, 1909.) Plants rather undersize, foliage scanty, some leafspot injury; fruit small, conical, bright red, with numerous seeds; flesh bright scarlet, firm, acid, good.

This variety, while small and a light yielder, is extra early and where an extra early variety is desired may prove to be valuable.

Early Ozark. (Perfect, Crawford, 1909.) This variety has a characteristic foliage, uniform green in color, leaves medium in size on rather long petioles; foliage healthy throughout season; short, stout fruit stalks. Fruit medium in size, roundish, a medium shade

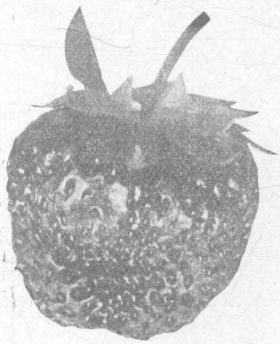
of glossy red, coloring evenly; flesh well colored throughout, firm, juicy, subacid, good. Moderately prolific. Early.

Recommended for trial as an early sort.

Elmira. (Imperfect, G. A. Parcell, 1910.) Plants thrifty, with rather small leaves; fruit conical, slightly wedge shape, scarlet to crimson; flesh dark, fairly firm, and mild but pleasant. The seeds are rather deeply sunken and greenish yellow to brown. Season early.

This variety was the second heaviest producer in the test this year, although the fruit ran small during the latter half of the season. The tendency of the variety to make plants is so strong and they became so closely crowded in the row that they were unable to attain full development and this may have affected the size of the fruit.

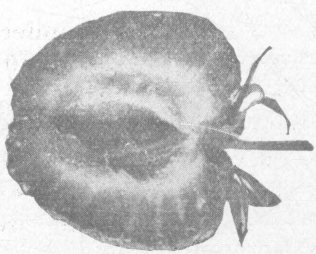
Ellwood. (Perfect, 1906.) Owing to poor pollination the yield was light. What berries were produced varied greatly in size, shape, and color. Midseason.



Ekey. (Perfect, Crawford, 1906.) Vigorous plants with dark green foliage; fruit large, long, tapering to a point, regular conical, dull red, coloring evenly; flesh red, moderately firm, juicy, rather acid, not high in quality.

Ekey

Recommended for trial for nearby market. Owing to imperfect pollination the yield was light in 1911. Berries hold their form well when canned but fade somewhat in color. Midseason. Productive.



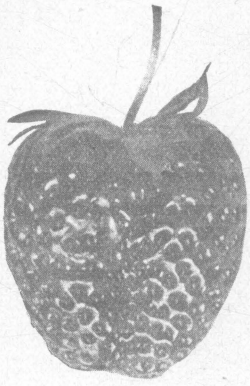
Fae

Fae. (Imperfect, W. J. Alt, 1908.) Plants vigorous, making a goodly number of runners. Fruit large, blunt conical to broadly wedge shape, medium red when ripe, having a

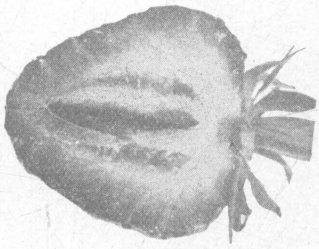
pinkish cast before fully ripe; flesh light red, juicy, rather firm, but skin tender and easily bruised, quality good; clusters full, all berries large and uniform. Productive. Midseason.

Recommended for home use or near market, but will not stand shipping.

Fendall. (Imperfect, Crawford, 1908.) A fair stand of healthy plants of moderate vigor; fruit large, of uniform size and shape, handsome, light scarlet with greenish colored seeds; flesh crimson, firm and of good flavor.

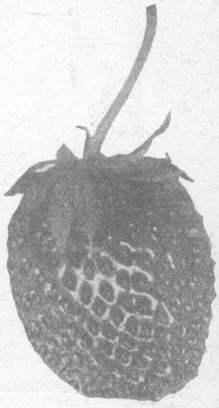


This is a promising, fairly prolific, medium late variety. The fruit is attractive and holds its size and appearance well as the season advances.



Fendall

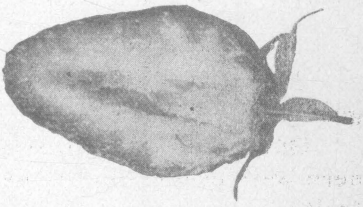
First Quality. (Perfect, Chas. Pratt, 1908.) This variety did quite well the season of 1909 but in 1910 there were practically no plants.



Fruit medium in size, conical, quite uniform, dark attractive red; flesh light red, firm sweet, good.

Fruit did not hold up well in canning and faded in color. Midseason.

Gen. DeWett. (Perfect, Allen, 1908.) Makes only a few plants; leaves good color and free from disease; fruit stalks upright, flowers showing above leaves, and fruit stems remaining upright until weight of fruit bends them over and often they are strong enough to hold the fruit above the foliage. Fairly prolific.



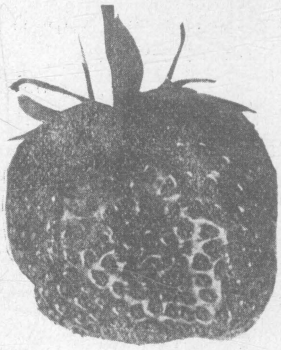
First Quality

Berries small, conical, regular in shape and quite uniform in size, medium red, coloring evenly; flesh red throughout, quite firm, juicy, acid, good. Others of its season are superior. Midseason.

Goldsboro. (Perfect, Crawford, 1907.) This is quite a good grower, making a large number of plants, crowns strong with a good foliage. Berries large, dark red, seeds numerous, greenish yellow; flesh red, firm and juicy, subacid, quite good; calyx large and showy. Productive. Midseason.

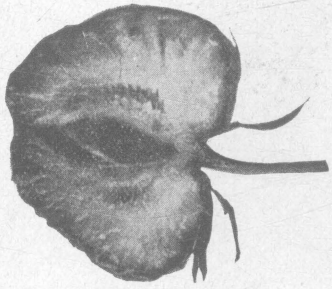
The dark green foliage remains wonderfully healthy throughout the season.

Golden Gate. (Perfect, Crawford, 1907.) Plants stocky, prolific, with rich, dark green foliage, long runners; fruit large, broad wedge shape, smaller ones modified wedge and blunt conical, color a dark glossy red but unevenly colored; flesh firm, red, moderately juicy, not high in quality. Midseason.



This variety makes good plant growth but is a little disappointing in fruit, as it ripens unevenly and the quality is rather poor. However, it has merit and will probably prove valuable as a market sort.

Good Luck. (Perfect, Allen, 1907.) Plants vigorous and prolific; fruit medium in size, conical to wedge shape, light red; flesh light red, firm, acid, good. Resembles Parsons Beauty. Midseason. Worthy of trial.

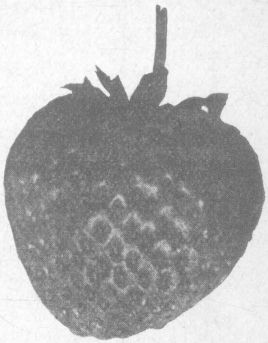


Golden Gate

Goree. (Perfect, Crawford, 1909.) Plants of medium size and moderately vigorous, somewhat affected by leafspot; fruit rather undersize, conical, occasionally slightly flattened, very dark crimson with many prominent greenish colored seeds; flesh dark red, firm, acid, good. This is an early berry which lacks somewhat in size but is of good color, shape and flavor.

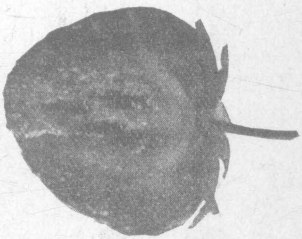
Gov. Rollins. (Imperfect, Crawford, 1907.) Just enough runners were produced to make a good stand. Foliage fairly abundant; fruit very uniform and above medium in size, roundish conical, scarlet, with few greenish yellow, sunken seeds; flesh firm, mild and of excellent flavor. Midseason.

While somewhat light colored, the fruit is attractive in appearance, holds up quite well in size during the season, and this in connection with its fine quality and excellence of the plant makes the variety a very promising one.

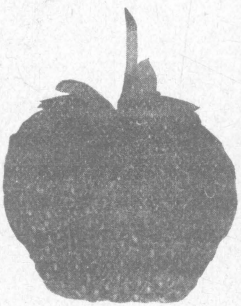


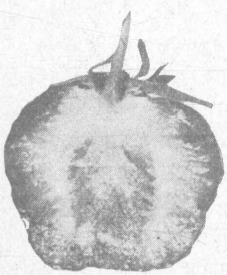
Granger. (Imperfect, Ekey, 1907.) Plants vigorous with rather light green and large leaves; fruit averages large, long, conical, often somewhat compressed, a bright shiny red, with conspicuous yellow green seeds; flesh rich red, firm, juicy, subacid, good. Calyx remains g r e e n. Midseason. Productive. Recommended for market.

Halley. (Perfect, O. A. E. S.) This is a Station seedling which looked so promising in the row before fruiting that it was given a name. The plants are large—the large, dark green leaves being borne on long leafstalks. There was some slight leafspot injury to the foliage. The foliage and habit of the plant are much like Haverland. The berry is about the same size of the Haverland but darker and firmer. Berries medium to large, conical in shape, some of the earlier fruits being wedge shape, color bright scarlet; flesh of the same color becoming lighter toward the center, quality quite good although acid. The season is from early to late, berries being produced during a period of 27 days. In size they held up remarkably well.



Gov. Rollins





Helen Davis

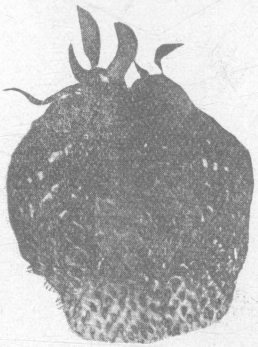
Ham. (Perfect, Jos. Black & Sons, 1909.) A good stand of fairly vigorous plants. Fruit narrow wedge shape, crimson to black in color with large yellow seeds; flesh dark crimson, firm and excellent. The sweetest, highest flavored berry in the test plot. Medium early.

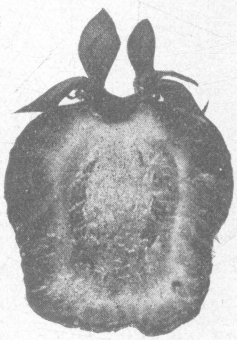
Helen Davis. (Perfect, G. W. Davis, 1910.) A fair plant maker, producing a fair stand of large, thrifty plants with large,

dark green leaves. Fruit fairly uniform in size, medium to large, conical to roundish, some of the large berries slightly flattened, light scarlet but bright and attractive; flesh salmon, lighter toward the center, not very firm, sweet and good.

This variety held up in size well during the season and yielded above the average, while the fruit was of good size and attractive. A promising variety for medium early.

Heritage. (Perfect, Allen, 1909.) A fair stand of large, well grown plants; leaves large, light green, on long stout stems. Fruit large, holding up well during the season, conical or wedge shape, elongated at the apex, wrinkled and furrowed, crimson to pinkish white, with some of the berries green at the apex, seeds yellow and sunken; flesh very deep salmon color, soft, subacid, fair. A very prolific variety but not attractive on account of its wrinkled appearance. Midseason.

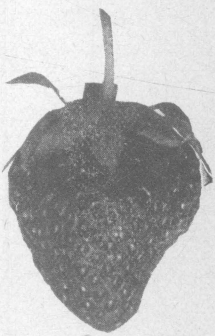


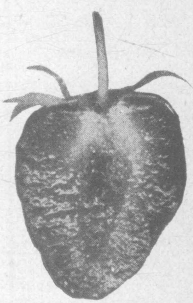


Heritage

Howard. (Perfect, Jos. Black & Sons, 1909.) Plants of medium size and vigor; fruit uniformly of good size at the beginning of the season, but rapidly dwindling down to very small, bluntly conical to wedge shape, bright scarlet with prominent greenish yellow or brown seeds; flesh scarlet, fairly firm, good.

If it held up in size it would be a promising variety, but to judge from two seasons' trial it is not to be recommended. Midseason. Plants noted as not vigorous in 1910.





Howard No. 17

Howard No. 17. (Perfect, 1909.) Plants, large, healthy, vigorous, dark green; foliage abundant; fruit large, conical, some of the first berries being wedge shape, divided and even "parrot billed," bright scarlet with yellow sunken seeds; flesh bright red, fairly firm and of good quality. A promising variety. Medium early. Rated as one of the best early varieties in 1910.

$100. (Perfect, F. & P. Co., 1909.) While this and the following variety may be different they have some points of resemblence. Both are greenish crimson, of irregular shape, ribbed and furrowed. Both have vigorous healthy plants with little leafspot injury and both suffered from a light setting of fruit. Midseason.

Hundred Dollar. (Perfect, W. S. Todd, 1908.)

Ideal. (Perfect, J. W. Haines, 1910.) Row well filled with large, thrifty plants. Leaves large, dark green; fruit large, uneven size, irregular, shape oval, conical, some wedge shape, a few divided, sometimes with a slight neck; seeds few, dark, prominent; color variable, scarlet to pink, making the fruit unattractive, flesh deep salmon, rather soft, mild, and of good flavor. Medium late.

The strong points of this variety are the size, which holds up well, the yield, and the quality. The weak points are color and texture and a tendency of some berries to have hard tips. While it produced over one-half quart per foot of row this year the blossoms were poorly pollinated. With perfect pollination this variety should be a heavy yielder.

Idora. (Perfect, Carlisle, 1909.) Not a large number of plants formed but those produced were large and stocky; leaves large, dark green, foliage healthy; fruit large, rather blunt conical, thick, wedge shape, medium dark red with trace of crimson when ripe, coloring rather unevenly; flesh light red, not very firm, juicy, buttery, good, mild, quite pleasant. Recommended for home use, but not firm enough for shipping. Midseason. Found growing in Idora Park, Youngstown, hence the name.

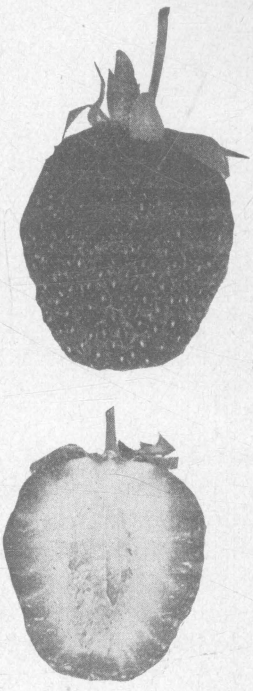
Irene. (Perfect, W. S. Todd, 1908.) A rather large, midseason berry, varying from scarlet to crimson; rather rough looking but of good flavor. Poor pollinizing this year prevented us from seeing what it could do in the way of yield.

Jim Dumas. (Perfect, Allen, 1909.) Plants moderately vigorous, foliage abundant, leafstalks reddish, berries medium size and of irregular shape, many of them shaped like a scallop summer squash, ribbed; color very dark, often almost black, with yellow seeds, with a tendency to uneven coloring and green tips; flesh scarlet, firm and acid. The variety is productive and of good color, but lacks in shape and quality. Early to midseason. Recommended in 1910 as a promising early sort.

J. S. Berry Seedling. (Perfect, J. S. Berry, 1908.) Makes a fair number of plants, leaves large size, light green, leaflets folded on the midrib, free from disease. Fruit stalks long, upright, branched; berries large, conical to wedge shape, much inclined to be double and irregular, light red; flesh red, firm, juicy, acid; fair in quality. Productive. Midseason to later.

May prove to be of some merit for market. Evidently prolific but many blasted blossoms in 1911 prevented a fair test.

Kendall. (Imperfect, Crawford, 1909.) Plants medium size, vigorous; foliage light green, not abundant; fruit medium to large, becoming somewhat smaller toward the close of the season, wedge shape, regular; color light scarlet, with a few green tips; flesh scarlet, fairly firm, mild, good. Midseason.



Kendall

This is a promising variety for late midseason.

Keystone. (Imperfect, Carlisle, 1909.) This variety seems handicapped by being too good a plant producer, as without thinning the row is entirely too full of plants. The fruit is of poor shape, being flattened, divided and sometimes "parrot billed," color scarlet; flesh firm but of poor quality. Season medium early.

After two years' trial there does not seem to be any reason for retaining the variety in our test plots when there are other varieties surpassing it in every particular.

King. (Perfect, Allen, 1906.) A light yielder of uneven sized berries of rather poor quality. Midseason.

King Sol. (Perfect.) Apparently a very prolific variety and a good plant maker. Berries of good flavor but poorly colored; fruit large, conical, bright glossy red with a touch of crimson toward sun; flesh red, firm, juicy, sweet, very pleasant. Medium early.

Mammoth Beauty. (Imperfect, Allen, 1908.) Plants healthy, of medium size; fruit of uneven size and shape, elongated conical and wedge shape, some showing a neck; color bright scarlet, sometimes with a white tip; flesh scarlet, fairly firm, good, Midseason.

A fair variety but handicapped with a name that promises too much.

M. Crawford. (Perfect, Crawford, 1909.) Not a very full row. Plants stout, prostrate; leaves numerous, large, borne on stout stalks; fruit large, holding up in size during the season, conical and broadly wedge shape, with a slight neck, scarlet with a few sunken seeds; flesh very light toward the center, with a core, very firm, somewhat dry and mealy, fair to good. The calyx is of medium size and occasionally found dry during the latter part of the season.

This variety does not seem from two seasons' trial to be very productive; many plants could be found in the row which were entirely barren. Midseason.

Martha Crawford. (Perfect, Crawford, 1908.) A light stand of healthy, vigorous plants. Foliage fairly abundant, low, spreading; fruit medium to large, roundish conical to roundish wedge shape with few prominent seeds; color irregular, varying from scarlet to crimson, with some white tips; flesh scarlet, fairly firm, mild and good. Medium late.

During 1910 this variety seemed productive but in 1911 it was far from productive, resembling in this as in some other respects the preceeding variety.

Manhattan. (Perfect, Kuhns, 1909.) Rough looking berries of coarse texture but fair flavor. Midseason.

Mascot. (Perfect, Allen, 1909.) Rather poor stand of medium sized plants in 1910, leaves small to medium in size; fruit of medium size, short conical to blunt wedge shape, light glossy scarlet, evenly colored; flesh light red, firm, juicy, subacid, pleasant. Seeds are set on the surface, giving it a characteristic rough appearance.

A thick stand of thrifty plants in 1911. Apparently prolific. Berries of good color and size. Midseason.

Meigs. (Perfect, S. C. Barkey, 1910.) Plants vigorous, healthy; fruit large of irregular shape, color poor, pink; flavor coarse, mild and rather tasteless. Probably prolific but poor pollinizing prevented comparison. Midseason.

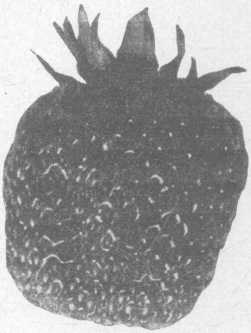
Minnetonka. (Perfect, Flansburg & Potter Co., 1909.) Plants rather weak, foliage small, rather scanty, dark green; fruit medium in size, conical to wedge shape, often rough or double, dark red when ripe, evenly colored; flesh light red, rather firm, juicy, mild, good. Calyx large, light green, which adds to the beauty of the berries.

Minnie's Early. (Perfect, Flansburg & Potter Co., 1908.) Plants small but make a good stand; leaves small with short petioles, fruit small, short, conical, quite uniform in size and shape, light red, evenly colored; flesh nearly white, rather firm, mildly subacid, juicy agreeable, calyx discolors.

Only moderately productive and can not be recommended as there are a number of first early sorts superior to it.

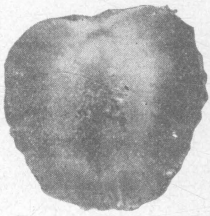
Model. (Perfect, M. S. Hubbell, 1909.) Plants vigorous with abundant rather light green foliage; fruit fairly uniform in size and shape, medium to large, bluntly conical to bluntly wedge shape, scarlet; flesh light salmon, rather soft and of fair flavor. Prolific but of poor color; too many berries greenish white to look well. Season medium early.

Mollie. (Imperfect, W. J. Alt, 1908.) Plants vigorous and seem to be fairly prolific; fruit large, variable in size but averaged above medium in 1910. In 1911 they were very uniform, medium size, blunt wedge shape, with a tendency to a rough or double apex in the larger berries; pinkish red becoming light red when ripe; flesh nearly white, firm, sweet, juicy, good. Prolific. Calyx remains green. Midseason. Recommended for home and market.

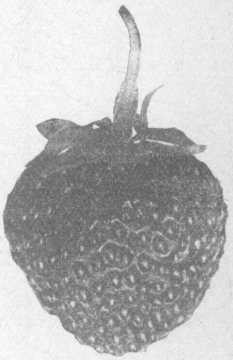


Myer's No. 1. (Imperfect, Flansburg & Potter Co., 1909.) Plants of medium size, healthy, with glossy, dark green leaves; fruit uneven in size, rather soft, lacking in favor. Apparently not prolific. Midseason.

Myer's No. 7. (Imperfect, D. S. Myer & Son, 1908.) Plants healthy and vigorous; fruit medium size, broadly conical to broadly wedge shape, scarlet to crimson in color, with greenish yellow seeds; flesh scarlet, lighter toward the center. A trifle soft, sweet, good. Midseason. A promising variety for trial.

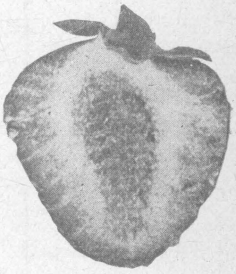


Model



New Early Strawberry. (Perfect, C. S. Tuttle, 1909.) Row too full of moderately vigorous plants. Foliage abundant, leaves small, seriously affected with leafspot, leaflets narrow; fruit of uniform size, medium to small, round, salmon color, with red, deeply sunken seeds; flesh light salmon, rather soft, good.

The color and flavor of the fruit suggests the American wild strawberry. The flavor recommends it for home use to those who care for the flavor of the wild berries but it is too small to be desirable as a market berry. Extra early.



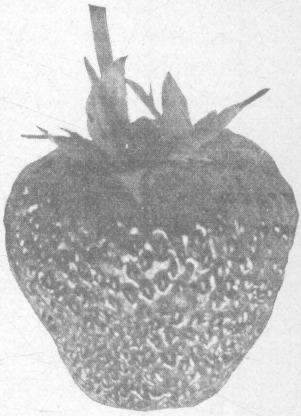
Myer's No. 7

Nehering's Gem. (Imperfect, Crawford, 1908.) Plants large, vigorous; fruit undersize. Midseason.

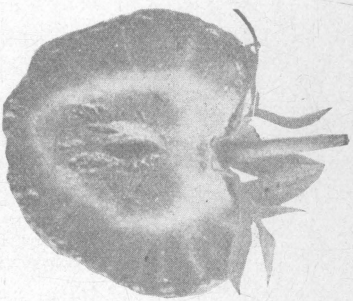
Norwood. (Perfect, Crawford, 1909.)—(Farmer, 1908.) Fruit of medium size with good color and flavor. Too many blooms, too imperfectly pollinated to judge of productiveness. Midseason.

Oaks' Early. (Perfect, Allen, 1908.) The stand was good but the plants did not make many runners. Medium early. Fairly prolific and good for an early sort. Recommended for trial.

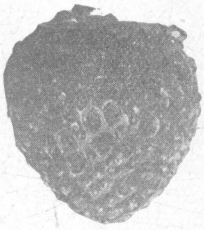
Ohio. (Imperfect, C. S. Barkey, 1910.) A full stand of large, thrifty plants; foliage abundant, light green and tall; berries above medium, but do not hold up as well in size during the season as is desired; wedge shape, crimson, with some white tips and with greenish yellow prominent seeds; flesh crimson, of good texture and fair acid flavor. Season rather late. Another year's test will be necessary to determine the value of this variety, as the yield was cut down by blasted blossoms.



Orchard Seedling. (Imperfect, Shafer & Rogers, 1907.) This variety did not do as well in 1910 as the two previous seasons, because of adverse conditions. Plants vigorous, free from disease until quite late in the season when some leafspot developed, leaves large, dark green.

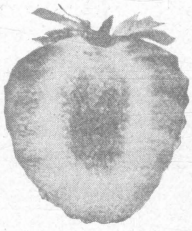


Orchard Seedling



Fruit large; conical to flat wedge shape, dark red, coloring rather unevenly; flesh dark red, lighter at center, moderately firm, sweet, mild, quality good. Calyx is likely to discolor before fruit is ripe. Midseason.

This is a promising variety for home and market, as it is of good size and appears well in basket, and is productive. When the fruit is canned it keeps shape well and holds its color. Many blasted blossoms in 1911.



Outlander

Oregon. (Perfect, Scarff, 1909.) A full row of plants but evidently not in perfect health, hence a satisfactory report cannot be made.

Outlander. (Imperfect, Crawford, 1909.) A very thin stand of large, healthy, vigorous plants in 1911. Fruit roundish, conical,

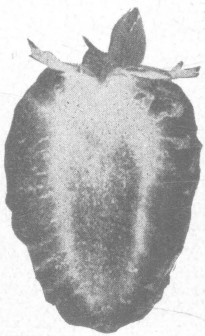
sometimes with a neck, bright scarlet, with few, prominent seeds; flesh scarlet, sweet and of excellent flavor. Midseason.

This variety is promising in plant and fruit, but another year's test is necessary to determine if it is a good plant producer and whether it is productive or not.

Oswego. (Imperfect, Farmer, 1907.) Row well filled with plants of small size. Foliage abundant, leaves small on long, slender stems, considerably injured by leafspot; fruit medium to small of uniform shape, roundish to conical, medium to dark red with a few white tips and numerous slightly sunken seeds; flesh dark red, not very firm, acid and of fair quality. Midseason.

The fruit, which is small to start with, rapidly decreases in size so that it becomes worthless. After four seasons' test the variety does not seem worth retaining.

Parcell's Early. (Perfect, G. A. Parcell, 1910.) A good stand of medium sized plants. Plants thrifty with dark green foliage; leaves medium sized on rather short, reddish stalks; fruit small to medium, conical, light scarlet, with yellow, slightly sunken seeds; flesh dark scarlet, rather soft, flat and poor.



Parcell's Late

This is an early variety from the originator of Elmira, and appears to be inferior to that variety in every way.

Parcell's Late. (Imperfect, G. A. Parcell, 1910.) Plants large, thrifty, with large, coarsely toothed leaves borne on long stout stalks; fruit large to very large, holding up well in size, long wedge shape, crimson to scarlet, with greenish yellow, occasionally red, seeds; flesh scarlet, a trifle soft and of fair quality. A promising late variety.

Pride of Michigan. (Perfect, Knight & Son, 1908.—Flansburg & Potter Co., 1908.)

These varieties seem to be distinct, although both produce crimson berries. Poor pollinizing in both varieties prevented a proper estimate of their value. Early midseason.

Red Bird. (Imperfect, Allen, 1907.) Plants rather small with small leaves, long, slender runners, and short, stout fruit stalks. Fruit small to medium, short, conical to occasionally wedge shape, dark glossy red when fully ripe, colors uniformly; flesh rich red throughout, firm, acid, pleasant flavor. Calyx remains green. Midseason.

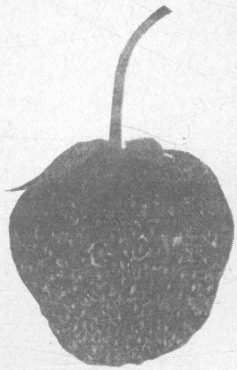
It is firm enough for market but does not yield sufficiently for the commercial grower. The berries hold tightly to the stems and should be pinched off rather than pulled.

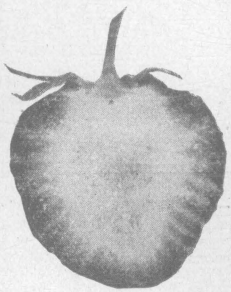
Riverside Seedling. (Perfect). This variety produced a good crop of scarlet, well flavored berries of rather poor color. They were of good size early in the season, but later became small. The irregular, uneven coloring was the worst defect. Midseason.

Seedling. (Imperfect, J. S. Berry, 1908.) A well flavored, bright scarlet berry of uneven size; fairly prolific. Midseason.

Seedling. (Imperfect, M. Miller, 1910.) Leaves flat with coarsely toothed, narrow, leaflets on long leafstalks; fruit light scarlet with yellow seeds; flesh bright scarlet, firm, acid, and fair in quality.

This is an extra early variety, and a good producer of small berries. At the first picking the berries were small and by the third picking they would hardly grade as seconds. The row was too full of plants, which may have had some bearing on the size.





Seedling No. 1

Seedling No. 1. (Perfect, A. R. Weston & Co.) Plants dark green, vigorous, with fairly abundant foliage; fruit large, of uniform shape, from conical to wedge shape, color scarlet to crimson with a greenish background; flesh scarlet, lighter toward center, fairly firm, and of fair quality. Midseason.

A prolific variety, producing large berries, the size holding up during the season. The greatest fault is the color and the tendency of the calyx to dry up.

Swedenborg. (Perfect, D. Knight & Son, 1909.) Plants moderately vigorous, foliage abundant, seriously injured by leafspot; fruit medium to small, bluntly conical, light pink, with prominent green and red seeds; flesh very light, fairly firm, and of poor flavor. Medium early.

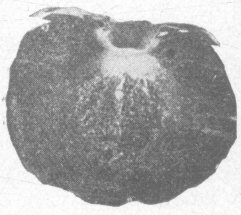
Nothing but its possible productiveness can recommend it.

Seedling. (Perfect, Chas. Schull, 1908.) Good stand of vigorous plants; leaves rather small, good color, fruit stalk upright; fruit medium size, short, roundish conical, uniform, glossy medium dark red, surface smooth; flesh red throughout, firm, subacid. Not very prolific this season. Some fruits ran quite small. Not recommended.

Station Seedlings. In 1906 Mr. F. H. Ballou made some crosses between Fremont Williams and Nettie, and Fremont Williams and Latest, the purpose in selecting these varieties being to secure a superior late variety. As these seedlings came into bearing the most promising were saved and propagated, so that in setting our variety test plot in 1910 we were able to set 32 different Fremont Williams-Nettie crosses and 6 Fremont Williams-Latest crosses, 12 plants of each variety. These were temporarily named "FN" and "FL" to indicate their parentage and numbers were given to distinguish them. Before discussing these new varieties it might be well to call to mind the chief characteristics of the parents.

The Fremont Williams has a rather spreading, stiff foliage. The plants are of medium size, and while the abundant foliage is not as dark in color as that of many varieties the stiffness of the leaves, together with the health of the plant gives the variety an especially vigorous appearance. The fruits are of good size and even shape. They are usually conical, flattened, often with a depression at the apex. The color is a rich crimson; the flavor is quite good and the variety fairly productive.

The Nettie is more erect growing than the Fremont Williams, with an abundance of dark green foliage. The fruit is light crimson in color and of good quality, though rather acid. A peculiarity of the Nettie, which is valueless save as a distinguishing mark, is the presence, immediately beneath the calyx, in most of the large berries of a small portion of the berry about the size of a single blackberry drupelet, which is partially separated from the rest of the berry and which bears a single seed. This peculiarity the Nettie has transmitted to most of its "FN" descendents.



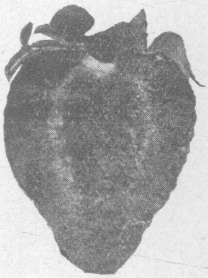
FW5xFN4

The plants of the Latest are of medium size and moderately vigorous. Leaves medium size to small, on reddish leaf stalks. The foliage is not abundant and the variety seems to be a poor plant producer. It is a prolific yielder of berries of good quality. The berries are of good size, handsome, dark crimson at the calyx end and often lighter toward the apex, often mottled with white.

F N 1, 2, 3, 4, 6, 8, 10, 12, 24, 26, 27, 28, 32, especially 4 and 8, have the peculiar thrifty and vigorous appearance of Fremont

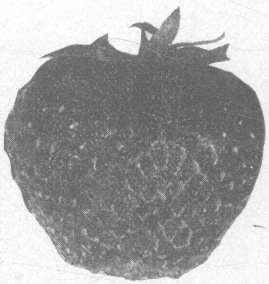
Williams, although most of them have much more upright growing foliage, which is borne on long stems. F N 7 has an abundant foliage. The leaves are medium sized with the leaflets more or less folded on the midrib. F N 9, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23 are more on the Nettie order, except that the foliage is the color of the Fremont Williams. F N 5, 25, 29, 30, 31 are weak growing varieties.

The F L seedlings seem to suffer from weakness of Latest as a plant and as a plant maker. There was not a full stand of plants in any of the F L rows, ranging from perhaps 2-3 of a perfect stand down to 2-3 to 3-4 of the original 12 plants. F L 4, 5, 6 show the large leaves of the Fremont Williams while 1, 2, 3 and 7 resemble the Latest more in foliage.



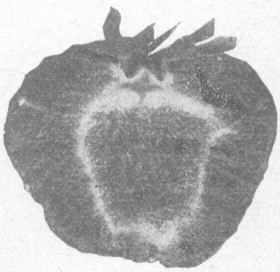
F. L. 1

At the last picking, July 3, which was 30 days after the first picking, the best showing of fruit was made by the Fremont Williams and by F N Nos. 1, 3, 8, 9, 12; while the plot of 200 varieties yielded only about six quarts of berries, 2 1-2 quarts of this total were produced by the above mentioned 6 varieties.



Fremont Williams had borne berries since June 12th, producing in all somewhat over 6 quarts. The berries picked July 3rd were of good size and attractive, of the typical, flattened shape.

F N 1 had produced berries since June 12th, in all about 2 quarts. On July 3rd the berries were of medium size but uniform and attractive looking.

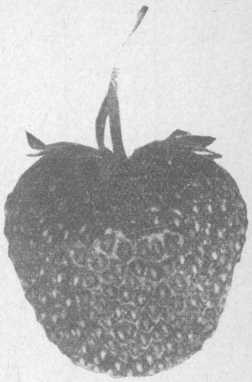


F. N. 3

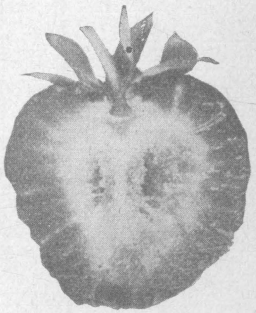
F N 3 had been in bearing since June 9th, and had produced about 8½ quarts. The berries picked July 3rd were quite uneven in size and shape. They were rather light colored, showing the Nettie parentage. While uneven they were fair sized and while the shape varied the Fremont Williams type predominated.

F N 8 is in many ways unique. Its appearance was the most striking of any row in the entire plot. A perfect stand of large,

healthy, vigorous plants of very uniform size gave the row the appearance of a trimmed bed. The foliage was very abundant, the leaves large, bright green, borne on long leafstalks. Although promising much, it produced but about 1½ quart between June 16th and July 3rd. The berries were of good quality and good size. The color has been too light and the berry too tender even for home use.

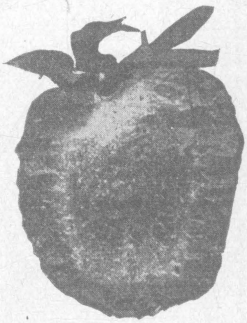


F N 9 produced over 6½ quarts between June 14th and July 3rd, yielding 1 quart on the latter date. The berries, as picked July 3rd, contained quite a number of nubbins, but by sorting out perhaps 1-6 or 1-4 in quantity a very attractive package of fruit could have been secured. The color, while not so dark as a perfectly ripe Fremont Williams, was excellent and the fruit was quite firm.



F. N. 9

F N 12 produced the largest berries of al varieties picked July 3rd. Fully half of the berries of the variety would have graded as large. The first berries were picked June 16th and over 2½ quarts have been produced by this row.



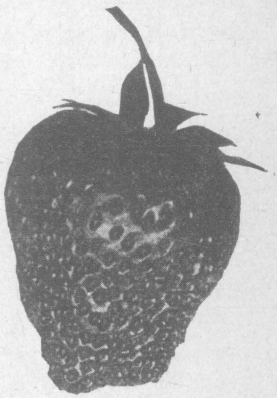
F. N. 12

St. Louis. (Perfect, Allen, 1908.) Fruit medium in size, round conical, light red, rather soft, and inclined to rot, mildly subacid; core separates easily. A good plant producer and fairly prolific but too soft for general use. Rather early.

Taft. (Imperfect, Crawford, 1909.) A fair stand of plants in 1910, showing a vigorous growth. Large, round leaves protecting fruit, healthy throughout the season. There were so few plants in this row in 1911 that but little could be told about the behavior of the variety.

Fruit large, blunt conical to wedge shape, bright red, showing yellow seeds, has a tendency to ripen unevenly at apex; flesh red, medium firm, juicy, sweet, good. Moderately prolific.

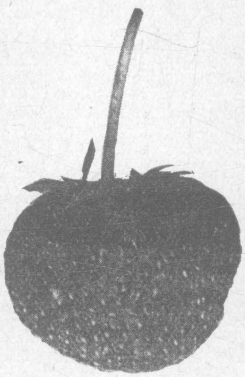
While the berries are very fine, the plants are not productive enough on a clay soil to recommend it for market.

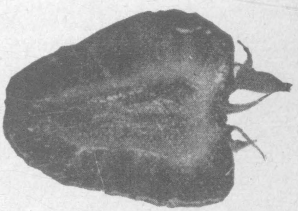


Victor. (Perfect, Thomas, 1907.) Row scantily filled with large, vigorous plants. Foliage dark green, abundant; fruit large, long, wedge shape, oval, irregular, wrinkled and furrowed; flesh salmon, lighter toward the center, quality poor. Midseason.

The appearance of the berry is far from attractive and the flavor would not invite a second trial.

Winchell's. (Imperfect, W. S. Todd, 1908.) A good stand of plants, fruit stalks stout, upright, often holding fruit off the ground. Fruit medium in size, uniform, light red; flesh light red, soft, mild, fair. Prolific. Midseason.

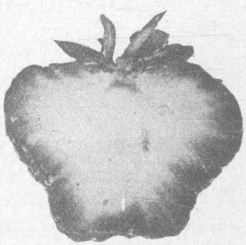




Taft

A vigorous, prolific variety producing medium sized, light colored berries of a mushy texture. Not recommended.

Wooster. (Imperfect, Crawford, 1909.) Row well filled with plants of medium size; leaves of average size on long, stout stems. Fruit large, very bluntly conical, and very regular in shape; color bright scarlet, excellent; flesh salmon, slightly stringy, good. Midseason.



Wooster

This variety ranked among the best as a midseason berry. It yielded fruit from June 3rd to June 30th, but the heaviest fruiting was from June 7th to 14th. The berries were remarkably uniform in size and shape throughout the season.

No. 260. (Perfect, Reasoner, 1905.) Fairly prolific but very poorly pollinized.

YIELD

A record of the yields of the different rows in the variety test plot would be misleading unless the two factors of stand of plants and pollination were considered in connection. Those plots which produced 9 quarts or over on 18 feet of row are as follows:

Buster	26 1-12	Abington	10 3-4
Elmira	16 1-2	Sample	10 7-12
Kendall	15 2-3	Helen Davis	10 1-2
Bountiful	14 5-12	Ideal	10 1-6
Wooster	14 1-6	Highland	10 1-12
Golden Gate	14 1-12	Bauer's Late	10
Dickey	13 11-12	No. 267	9 11-12
Bauer No. 9	13 3-4	Stevens' Late Champion	9 11-12
Mrs. Miller	13 1-4	Fendall	9 2-3
Gill	13 1-6	Nehring's Gem	9 2-3
Howard 17	13	Cobden Queen	9 7-12
Parcell's Ey	12 7-12	Latest	9 1-3
Heritage	12 5-12	Model	9 1-3
Miller's Sdlg	11 3-4	Rockhill's No. 8	9 1-4
King Sol	11 1-3	Goldsboro	9 1-4
Gov. Rollins	11 1-3	Ohio	9 1-4
Parcell's Late	11 1-4	No. 611	9 1-4
Jim Dumas	11 1-4	Myers' No. 7	9 1-4
Alamo	11	Halley	9 1-5
Sdlg. No. 1 (Weston)	10 5-6	Crozier	9 1-12
Nick Ohmer	10 3-4		

Several of the old standard varieties are conspicuously absent from this list for the reasons suggested above. To give a list of the varieties yielding the least, based on a single year's results, would be manifestly unfair and hence is omitted.

HILL CULTURE

A dozen varieties were selected in 1910 for hill culture, and a row 30 feet long, containing 20 hills was set of each. All the hills lived and made a good growth, although a hedge along the west side of the plot may have affected the varieties next to it. The average yield per foot of row for the 12 varieties, when the plants were set 1½ foot apart in the row, was just abont three-eighths the average yield per foot as grown in the matted row. Two varieties, Highland and Buster, gave over half a quart per hill, while Parson's Beauty was just a little below the half quart in yield. Gill gave less than 3 quarts on the 12 hills, or less than one-seventh as much per foot of row as in the matted row. Senator Dunlap did much better in hills than in the matted row.

Hill culture produces earlier berries than the matted row. There was but a single case out of the 12 varieties in which the matted row ripened first. The average of the varieties was a day and a half earlier for the first picking for the hill culture and seven days earlier for the last picking. Not a single variety lasted as long in hill culture as in the matted row. The varieties and yields were as follows:

	20 Hills, 30 ft. Quarts	Matted row, 18 ft. Quarts	
Sample	6 2-3	10 7-12	
Ekey	3 3-4	6 1-6	
Buster	13 1-3	26 1-2	
Marshall	5 7-12	4	Thin stand
Stevens' Late Champion	6 2-3	9 11-12	
Highland	10 2-3	10 1-12	
Parson's Beauty	9 1-3	6 2-3	Poor stand
Senator Dunlap	6 7-12	3	
Fairfield	4 11-12	8 2-3	
Fremont Williams	3 7-12	8 1-6	
Gill	2 11-12	13 1-6	
Golden Gate	5 5-6	14 1-12	

CULTURE

The strawberry is grown under so many different conditions in both intensive and extensive culture, and is so responsive to special care, that there are probably more methods and ideas for its management than for any other fruit. Matted row, hedge row, double hedge row and hill culture, each has its advocates, and under certain conditions, each is, in turn, the best. Location and soil do not seem to be the leading factors in production, although a cool, moist location is to be desired. To insure this moisture the soil should be well filled with humus, and because the root system of the strawberry plant is not extensive, the soil should be fertile, so as to bring sufficient food within the reach of the plant.

If the soil is not already fertile it may be made so by the addition of stable manure or commercial fertilizers, always remembering that stable manure is liable to introduce weed seeds and that commercial fertilizers furnish no humus. If the stable manure is applied to the preceding crop the danger of trouble from weeds is materially reduced.

To avoid grubs, sod ground should not be used, and to avoid weeds, a hoed crop should precede the strawberries. Cow peas or soybeans make a good crop to precede strawberries. If a cash crop is desired the seed may be gathered, but if fertility is more necessary, then the entire crop may be plowed under. Fall plowing is desirable, the soil being loosened up in the spring with a cultivator or harrow. Under special conditions, strawberries may be set in the fall, but for the average grower, spring setting is to be recommended. As strawberry plants are among the earliest to start into growth in the spring, early setting is important.

Probably for matted row culture, 18x40 or 50 inches will be the best distance. The setting is usually done by making a narrow hole by thrusting a spade into the soil and moving it slightly sidewise. The plant must be set with the crown just at the level of the soil and

the soil firmly pressed around it. Cultivation should consist in keeping down all weeds and keeping the ground covered at all times with a dust mulch by the use of cultivator and hoe. Where the labor is available, the placing of the runners as they form is to be recommended, as well as the removal of all surplus runners. As soon as the ground is frozen the field should be covered with two or three inches of mulch, composed of straw, strawy horse manure, marsh hay or similar material. This prevents repeated freezing and thawing and consequent heaving. As the plants start growth in the spring they must be carefully watched and the surplus straw removed to the spaces between the rows in time to prevent the plants becoming spindling. The mulch remaining on the row keeps the berries clean and the mulch between the rows keeps the weeds down and renders picking more pleasant. Many find it profitable to destroy a strawberry field after harvesting one crop, while others think it pays to fruit a field for two years. Some simply leave the field to itself to produce the second crop, but a better way is to mow the old patch and either burn or rake off the tops. While burning the tops is more satisfactory when successful, it is a more difficult operation than raking. For burning, there should be a brisk wind and just the right amount of fuel. If too little material is present the field will not burn clean, and if too much, the fire will injure the crowns of the plants. There is more danger in burning over a strawberry bed in dry weather than when the soil is moist and the plants growing. There is less danger from burning an excess of mulch in the spaces between the rows if the direction of the wind is parallel to the rows. After mowing and disposing of the tops, the rows should be plowed down to a width of 8 to 10 inches and the spaces cultivated. The further treatment is the same as that followed during the first season.

SUMMARY

In setting the strawberry test plots for 1910 and 1911 one dozen plants of each variety were set 1½ foot apart in the row, giving 18 feet of row for each variety.

The care of the test plot was the same as that of a well kept commercial plantation, and consisted of cultivation during the summer and mulching during the winter.

Each plot was fruited but a single year.

The yield for 1911 was seriously affected by the imperfect pollination of the blossoms. The reason for this we have been unable to determine. In this the perfect flowering varieties were much more seriously affected than the imperfect flowering.

A few varieties were entirely free from leafspot during 1911. They were No. 260 (Reasoner), Myer's No. 7, F N No. 25 and Rockhill's No. 6. Two varieties, Swedenborg and New Early, were seriously affected.

Promising varieties for market tested for the first time during 1910 or 1911: Extra Early—Climax, Early Golden, Elmira; Medium Early—Bountiful, Buster, Goree, Halley, Helen Davis, Howard 17; Midseason—Jim Dumas, Weston Seedling, Wooster; Late—F N 9, F N 12, Kendall, Parcell's Late.

Prominent varieties for market: Extra Early—Climax, Elmira, Gill, Fairfield; Medium Early—Buster, Dickey, Great Scott, Haverland, Highland Seedling, Helen Davis, Mrs. Miller, Nick Ohmer, Senator Dunlap, Warfield; Midseason—Alamo, Bubach, Fendall, Goldsboro, Jim Dumas, Sample, Wooster; Late—Fremont Williams, Kendall, Parcell's Late, Stevens' Late Champion.

Promising varieties for dessert tested for the first time during 1910 or 1911: Extra Early—Elmira; Medium Early—Bountiful, Goree, Ham; New Early, Wooster, No. 425; Midseason—Alamo, Myer's No. 7, Wooster; Late—Parcell's Late.

Prominent varieties for dessert: Extra Early—Elmira, Fairfield; Medium Early—Ham, Haverland, Nick Ohmer, Senator Dunlap, Warfield; Midseason—Aroma, Bubach, Goldsboro, Gov. Rollins, Parson's Beauty, Sample, Wooster; Late—Fremont Williams, Parcell's Late, Stevens' Late Champion.

Well known varieties for canning: Brandywine, Bubach, Clyde, Glen Mary, Parson's Beauty, Sample, Senator Dunlap, Warfield.

Those varieties which produced over the longest period were Ideal, King Sol, Bauer's No. 9, Kendall, Nick Ohmer, Latest, Golden Gate, Fendall, Riverside Seedling, No. 267, Nehring's Gem.

The ten highest yielding varieties in the 1911 test plot were Buster, Elmira, Kendall, Bountiful, Wooster, Golden Gate, Dickey, Bauer No. 9, Mrs. Miller, Gill.

Hill culture produces earlier berries than the matted row, the average being 1½ day earlier for the first picking and 7 days earlier for the last picking of the hill culture. Although the berries were not graded, there appeared to be little difference in quality between the berries grown in matted row and hill culture.

A test of irrigation was attempted but a combination of circumstances made the results of little value. A further test of the use of water upon strawberries is needed and will probably be made the coming spring.